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TITLE : OXYGEN-FREE COPPER BASE ALLOY AND ROLLED COPPER FOIL FOR FLEXIBLE PRINTED CIRCUIT BOARD

ABSTRACT : PURPOSE: To produce the foil for flexible printed circuit boards having excellent low-temp. softenability and folding fatigue resistance strength by rolling an oxygen-free copper alloy contg. a specific slight ratio of Zn and ≥1 kinds and Nb, Ti, Zr, V, and Ta to a foil shape.

CONSTITUTION: A Cu alloy ingot is formed by adding 0.002-0.04wt.% Zn and ≥1 kinds of Nb, Ti, Zr, V, and Ta at the ratio at which these elements are incorporated at 0.001-0.05wt.% in total to the melt of the high-purity oxygen-free copper contg. 0.005wt.% O_2 as an impurity. This ingot is subjected to hot rolling, intermediate annealing and cold rolling to produce the Cu alloy foil having ≤0.1mm thickness. The resulted oxygen-free copper alloy foil is imparted with the low-temp. softenability and folding resistance strength by the incorporation of the Nb, Ti, Zr, V, Ta, etc., therein. In addition, the folding fatigue resistance strength is improved by the incorporation of the Zn therein. The Cu alloy film adequate as the Cu foil for flexible printed circuit boards is thus obtd.